Corinex
CableLAN Adapter

Corinex

Mac OS X Manual

Declaration of Conformity

CE

Model: Corinex CableLAN Adapter

Manufacturer:

Corinex Communications Corp.
World Trade Center
404-999 Canada Place
Vancouver B.C.
Canada V6C 3E2

Directives which Conformity is Declared:

EMC: 89/336/EWG
LVD: 73/23/EEC
93/68/EEC

Standards which Conformity is Declared:

EN 55022
EN 55024
EN 61000-3-2/A14
EN 61000-3-3
EN 60950

The undersigned hereby declares the above specified equipment conforms to the above directives and standards.

Signature: .....

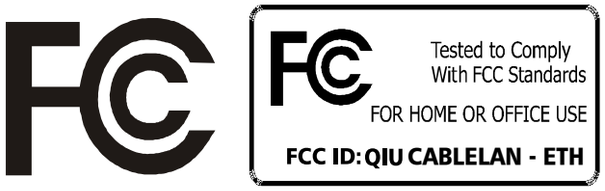
Place/Date: **2003**.....

Printed name: **Peter Sobotka**.....

Position/Title: **CEO**.....

Declaration of Conformity

For US Market Only



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This device complies with Part 15 rules. Operation is subject to the following two conditions:
1) this device may no cause harmful interference, and
2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules.

User Warning !

Any changes or modification to said product not expressly approved by Corinex could void the user's authority to operate the equipment.

Signature: ..... Place/Date: **2003**

Printed name: **Peter Sobotka** Position/Title: **CEO**

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2003-10-01 ver.1

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1 Introduction

1.1 Overview

The *Corinex CableLAN Adapter* is a network interface adapter, using the coaxial cable as a medium for communications. After successful installation, the indoor CableLAN network behaves like a traditional LAN for computers. The *Corinex CableLAN Adapter* supports up to 14 Mbps network speed.

The product keeps network maintenance cost low and eliminates usage barriers while there is no need for additional wiring. It is highly integrated and requires no other external electronic components.

1.2 About this Manual

This Owner's Manual is intended to provide sufficient information to help you understand how to successfully install *Corinex CableLAN Adapters* to meet your networking needs. With the information in this guide, you should be able to:

- Analyze your network efficiency
- Plan the configuration of *Corinex CableLAN Adapter* options
- Install and configure your *Corinex CableLAN Adapter* according to your plan
- Verify and optimize your *Corinex CableLAN Adapters'* performance

2 Installation Guide

2.1 What this Package Contains

When you receive your *Corinex CableLAN Adapter,* check to be sure that your package contains:

- Corinex CableLAN Adapter
- AC cord
- Ethernet cable
- Coax T-splitter
- Coax jumper cable
- This manual
- Installation CD

As we are constantly innovating our products, it can happen that we have newer versions of software tools included on the installation CD. If you want to check (and download) the latest versions of the software for your Corinex product, go to

www.corinex.com/download

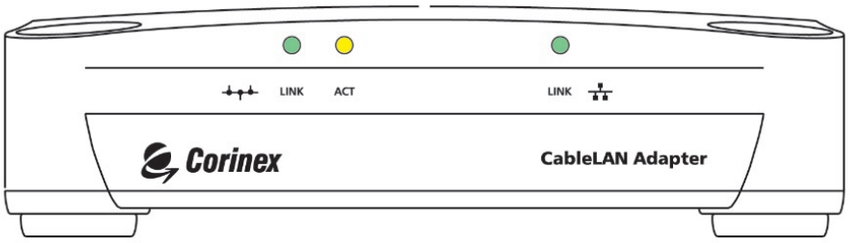
We also advise you to visit our Corinex Authorized Powerline Partners Program web page **(cappp.corinex.com)**, as you can find there valuable information about complex applications and installations, along with the partners in your area, who are providing installation services.

2.2 System Requirements

- A Macintosh or IBM compatible PC
- One available 10/100 Mbps Ethernet port for connection
- CD-ROM drive
- Windows 98/ME/2000/NT/XP, Mac OS X or Linux operating system

2.3 Physical Description

Front Panel

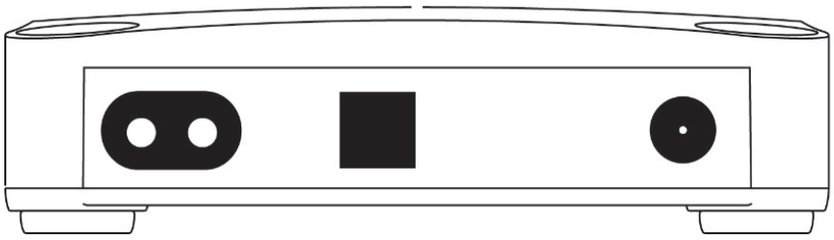


LED Definition

(LEDs from left to right)

CableLAN		
LINK: Green	On:	Link
ACT: Yellow	On:	Link
	Off:	No Link
	Blinking:	receiving/transmitting data
Ethernet		
LINK: Green	On:	Link
	Blinking:	receiving/transmitting data

Rear Panel



Connectors Definition

(Connectors from left to right)

Power Inlet: The device is equipped with internal power supply

Ethernet LAN Port: For linking computers or other Ethernet devices, e.g. hub/switch

F type CableLAN Connector: For the coaxial cable connection

2.4 Installing the CableLAN Adapter

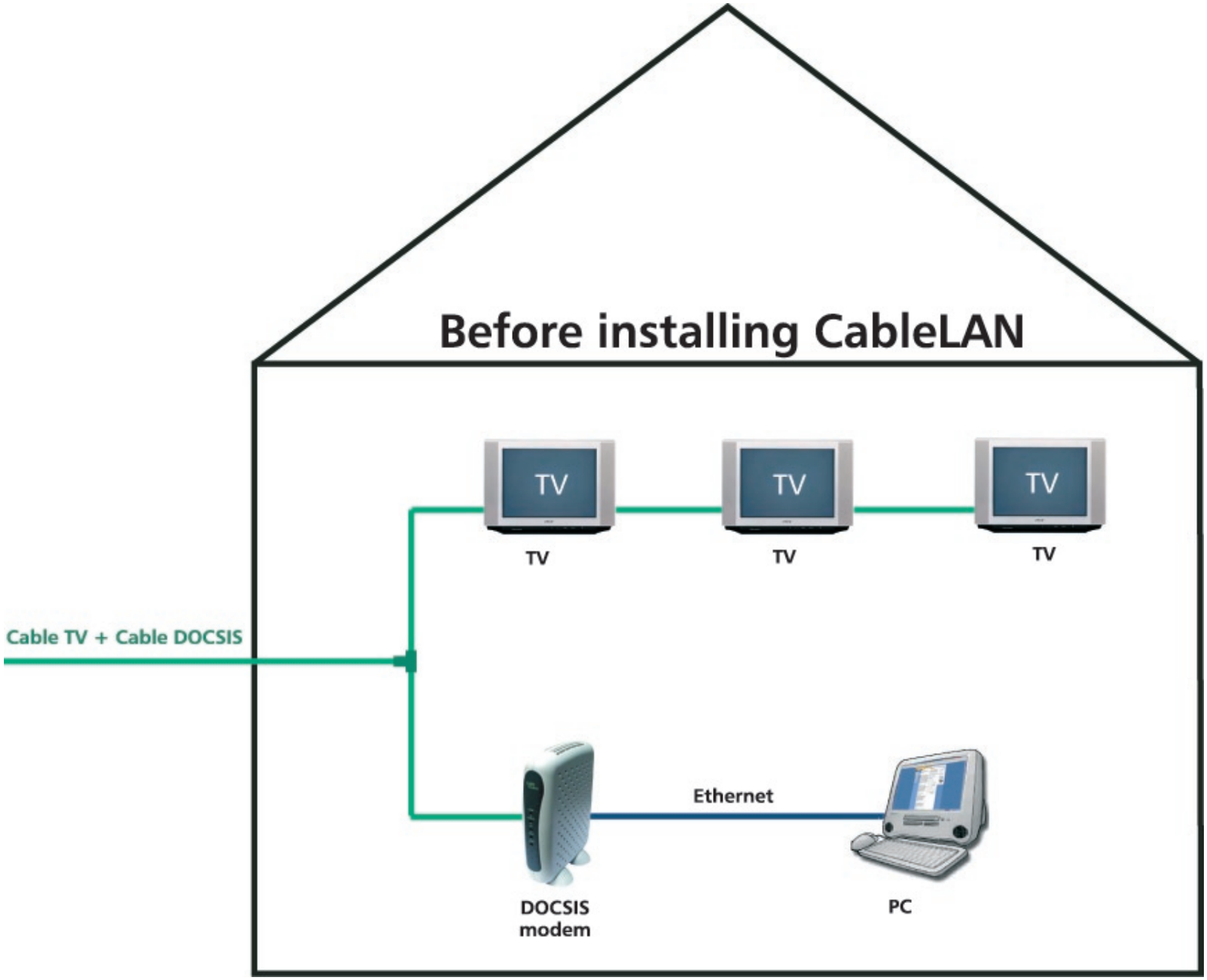
To connect the *Corinex CableLAN Adapter* to your computer, follow the steps listed below:

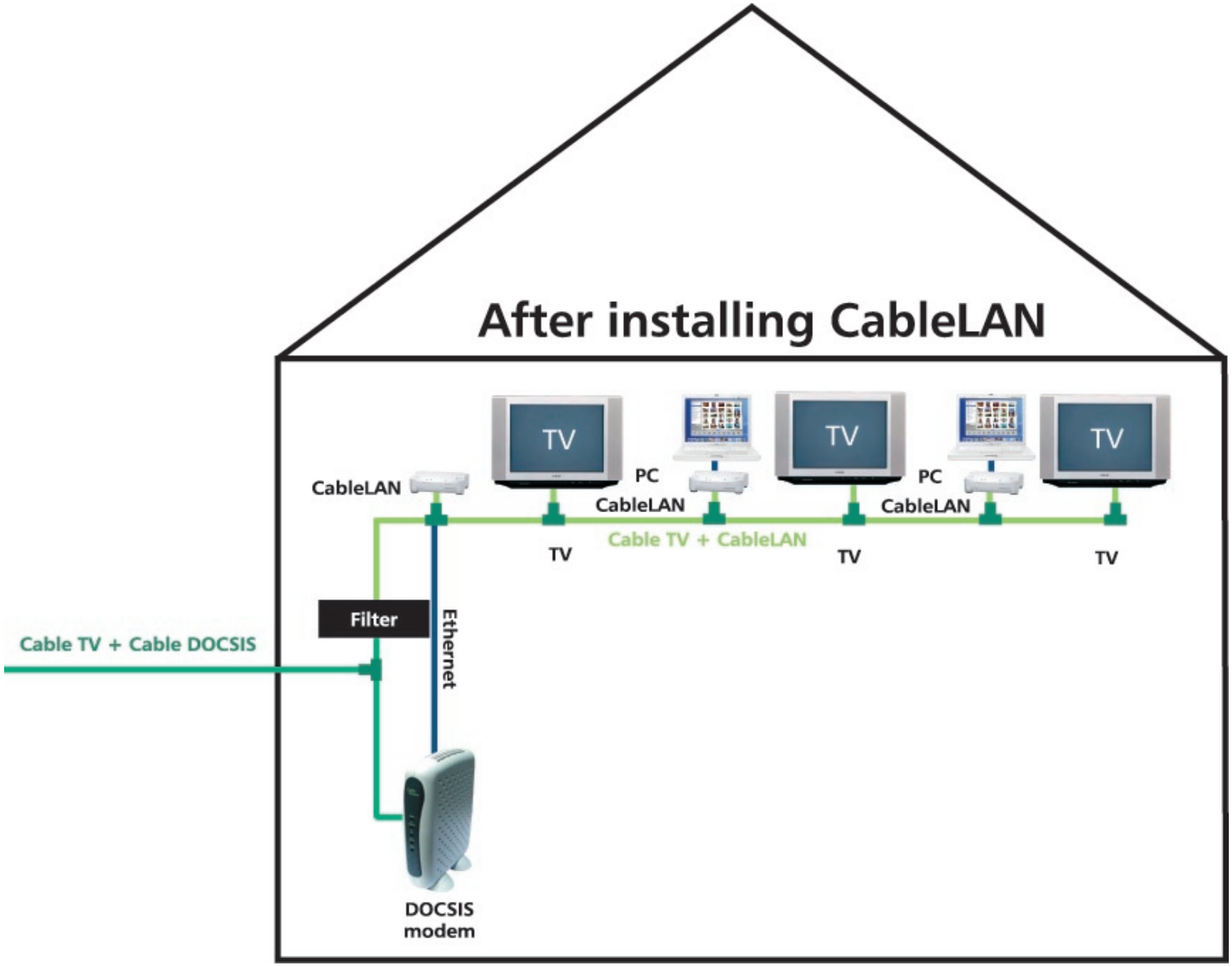
1. Plug the supplied AC cord into the *Corinex CableLAN Adapter* and after that, into an AC outlet.
2. Plug the coax cable into the *Corinex CableLAN Adapter.*
3. Unplug the coaxial cable connecting the TV and the TV outlet. Plug the T-splitter into the TV outlet.
4. Plug the TV coaxial cable into the T-splitter. Plug the CableLAN coaxial cable into the T-splitter.
5. Plug the Ethernet cable into the *Corinex CableLAN Adapter* and the Ethernet slot or card on your computer.

The *Corinex CableLAN Adapter* is equipped with an automatic switch enabling an Ethernet slot or card on the computer to be connected to the Adapter via a standard cable or to connect a cable modem or DSL modem via a "cross cable" to the Adapter.

If there is an existing Docsis (Data Over Cable Service Interface Specifications) system already installed, special precautions, as described further have to be taken.

It is possible to cut off the Docsis functions and insert the CableLAN at the incoming node. You can still use the Docsis Modem’s access capacity for Internet communications. This requires the use of a passive diplexer filter. See the installation example in the following pictures.

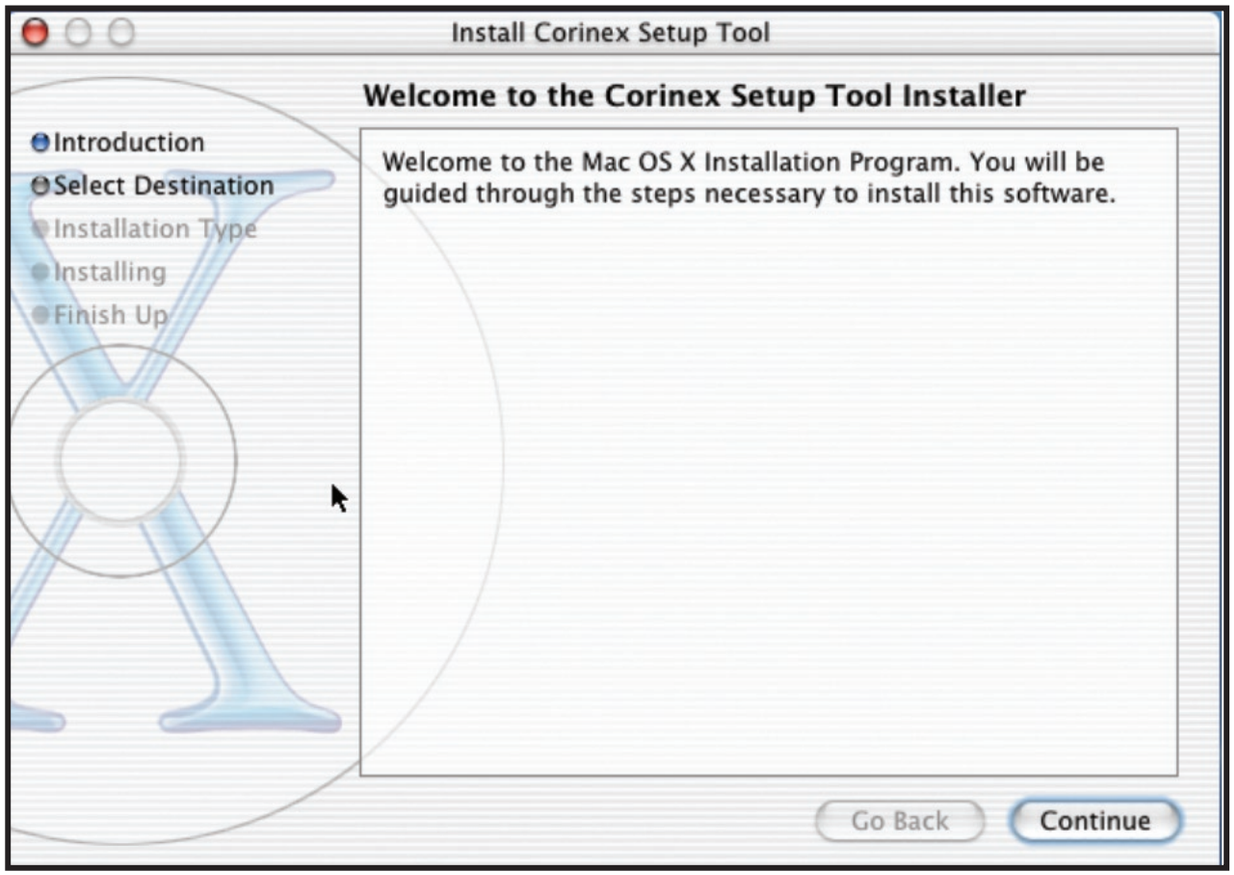

Before installing CableLAN
TV
TV
TV
TV
TV
TV
Cable TV + Cable DOCSIS
Ethernet
DOCSIS
modem
PC



You can find information about possible filter vendors on the Corinex Authorized Powerline Partners Program web site (cappp.corinex.com).

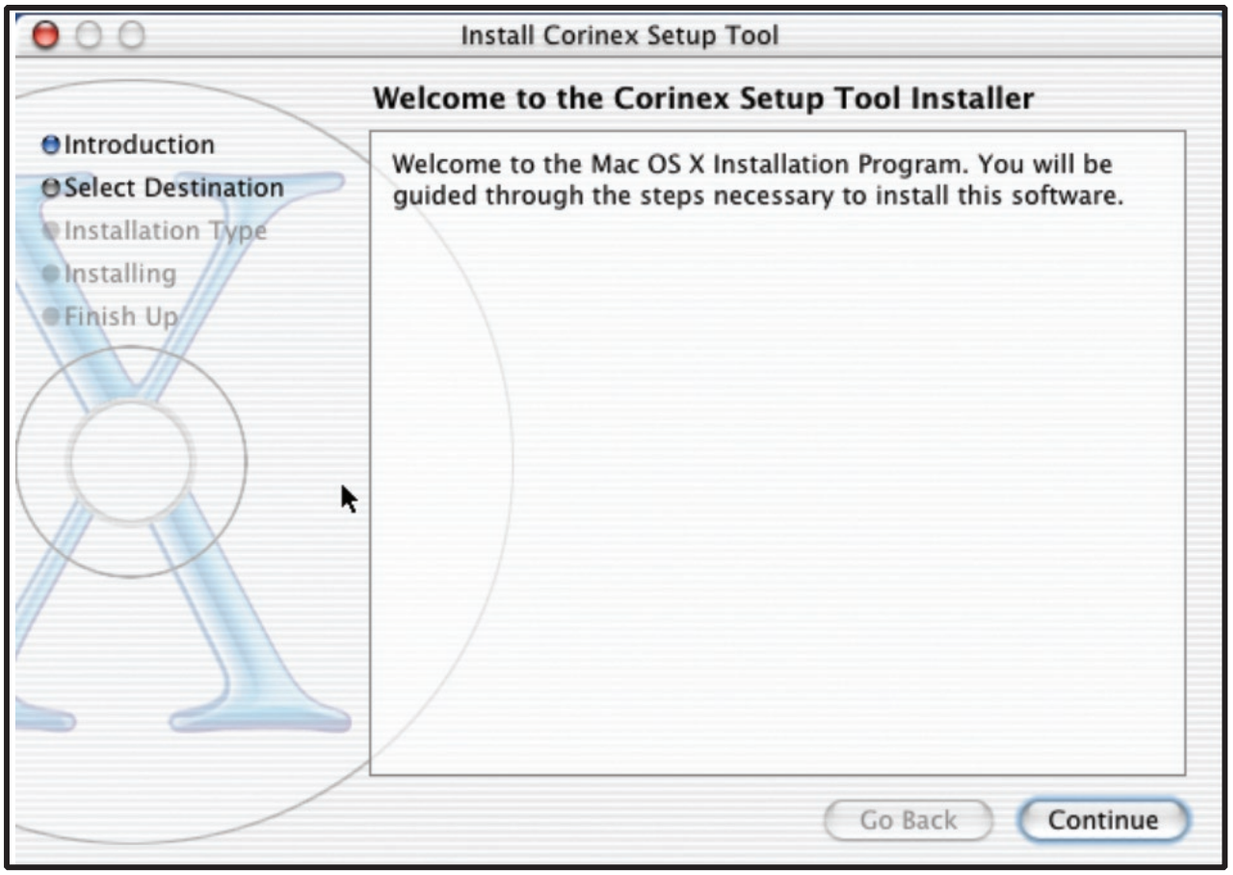
2.5 Installing the Setup Tool

1. The Corinex Setup Tool for MAC OS X is on the CD-ROM supplied with the adapter. To start installation of the program, launch the **cpntool.pkg** file from the CD.

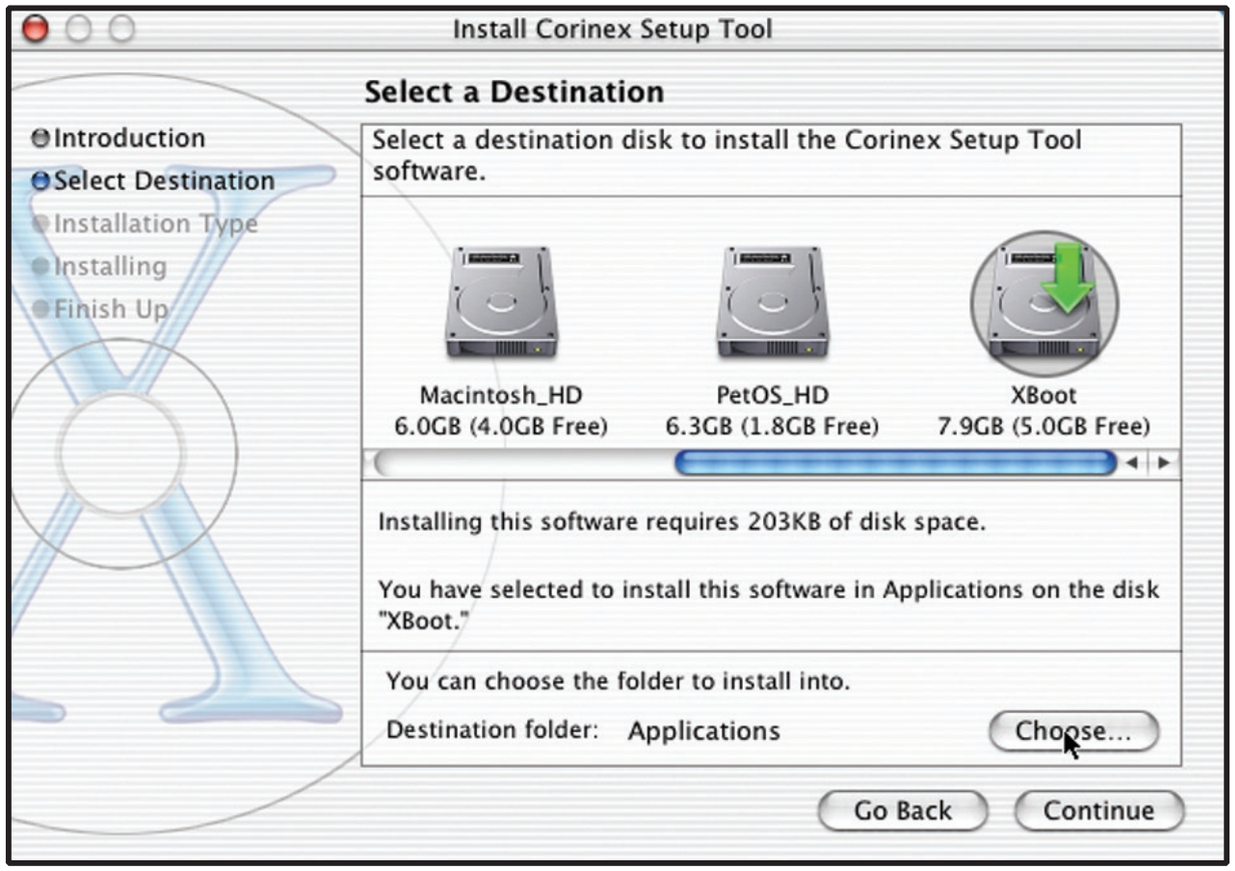


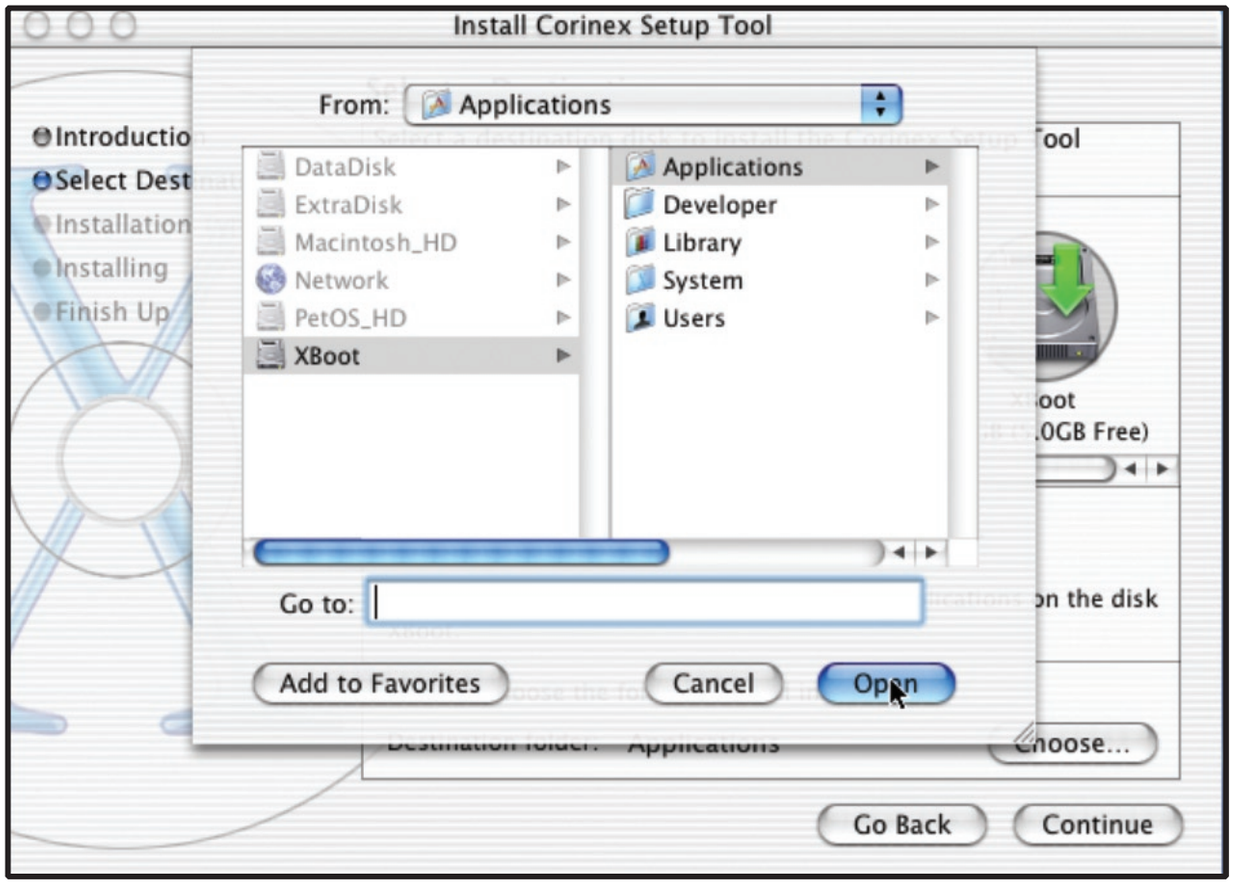
For a succesfull installation the instructions of the application installer on the screen should be followed exactly as described and displayed in the following steps:

2. The next screen contains a welcome dialogue. Click **Continue** to continue.

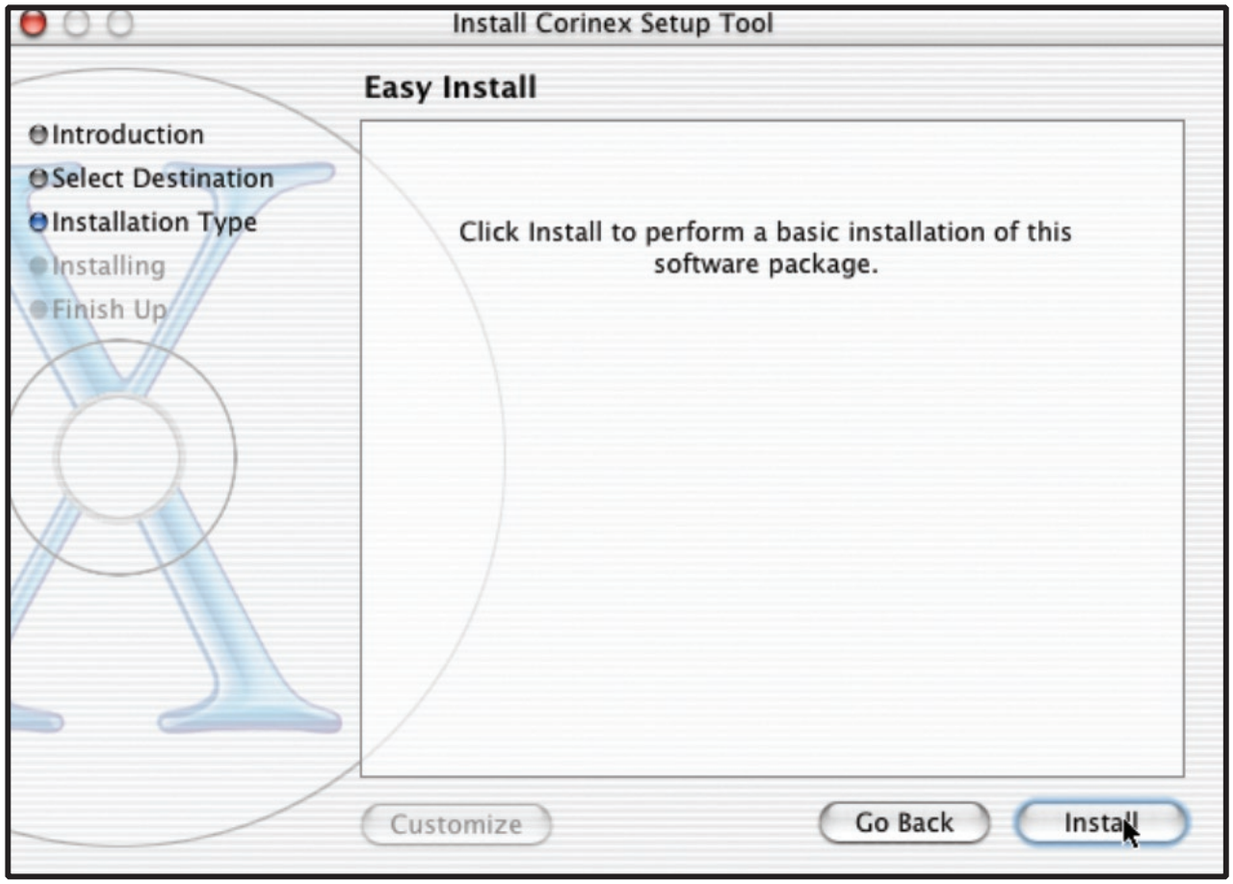


3. The next two screens will ask the user where the Setup Tool should be installed. Please select the desired disk and folder destination and click **Continue** to start the installation process.

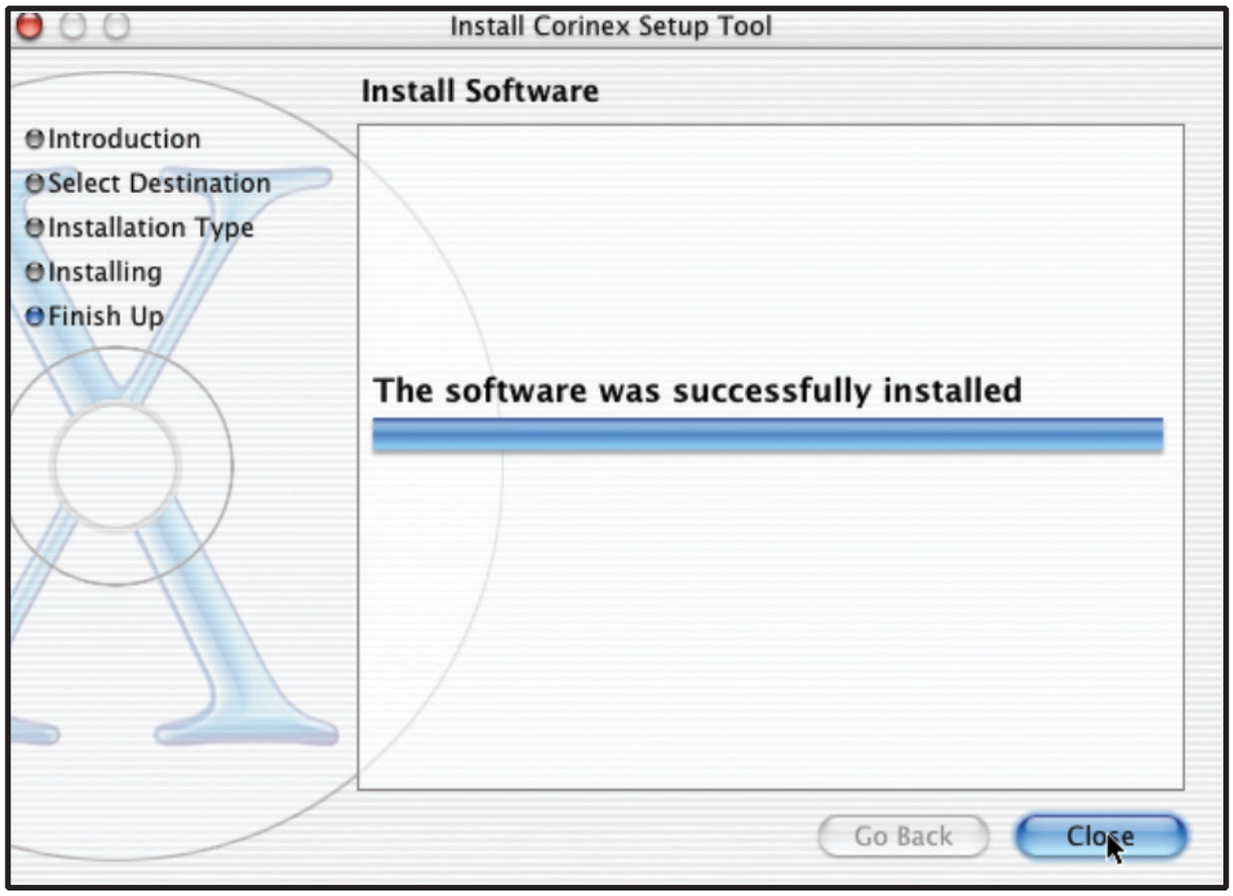



Install Corinex Setup Tool
From: Applications
Introductio
Select Dest
Installation
Installing
Finish Up
DataDisk
ExtraDisk
Macintosh_HD
Network
PetOS_HD
XBoot
Applications
Developer
Library
System
Users
Go to:
Add to Favorites
Cancel
Open
Go Back
Continue

4. To continue the installation you must click on **Install**.



5. The last screen displays information about the successful installation.



2.6 Testing the Setup

To verify that the connection over the electrical wires is working correctly, please use the standard Ping utility.

- Ping the IP address of the computer to which the CableLAN adapter is connected to. If this fails, there is a problem with the Ethernet network card.
- Repeat the same process with the other cable device on the network.
- If all nodes can ping themselves, try pinging another cable device on the network. If this fails, there is a problem with connections on the cable. Try to check the connection to the cable outlet or use a different cable outlet.
- If the setup does not work, refer to the troubleshooting guide, but first, try unplugging the CableLAN device and reboot the computer as this sometimes fixes the problem.

2.7 Running the Setup Tool

The setup so far allows the transmission of data, which is encrypted with a universal key, which is build into the adapters by the manufacturer. To set private encryption keys for the users personal network, the Setup Tool provided on the CD should be run and reference should be made to section 3.1 for details. As soon as the user has chosen his own encryption key, he has prevented anyone from intercepting transmitted data.

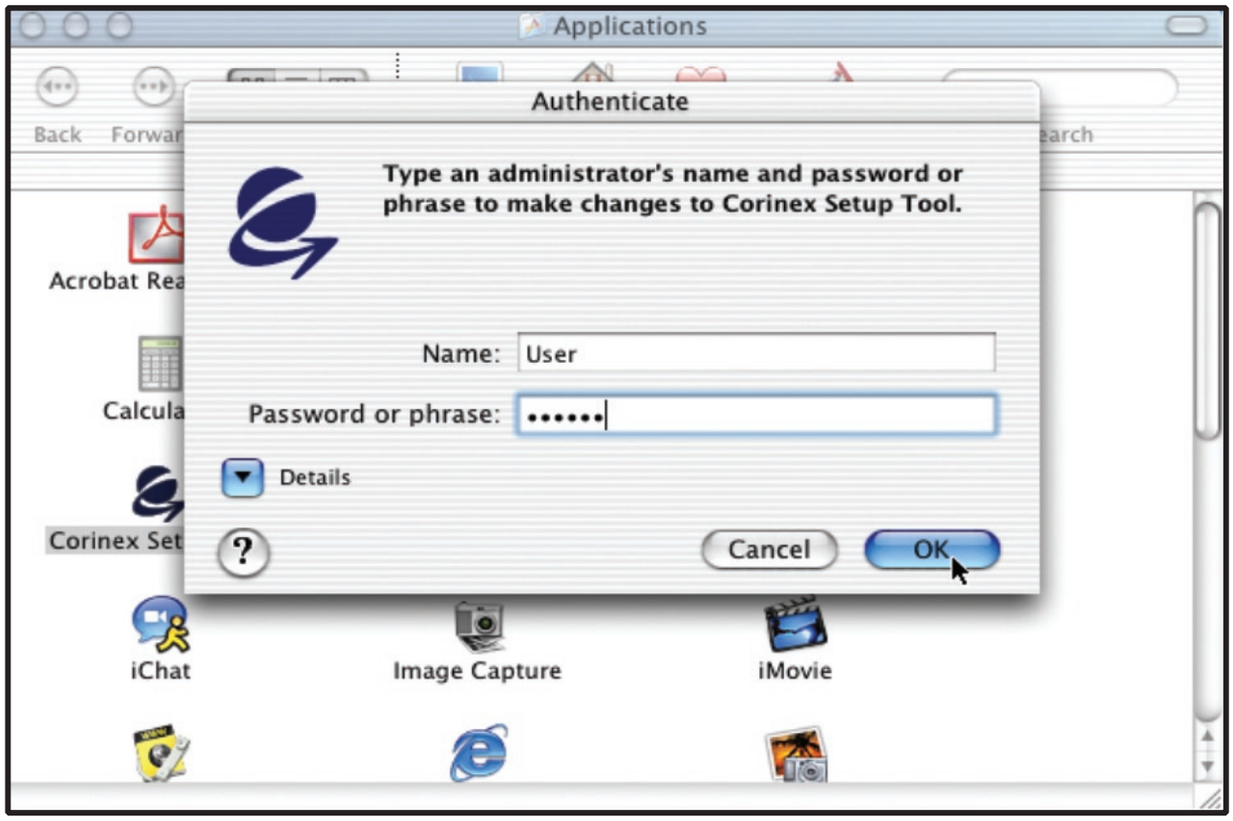
3 User Guide

3.1 Setup Tool User Guide

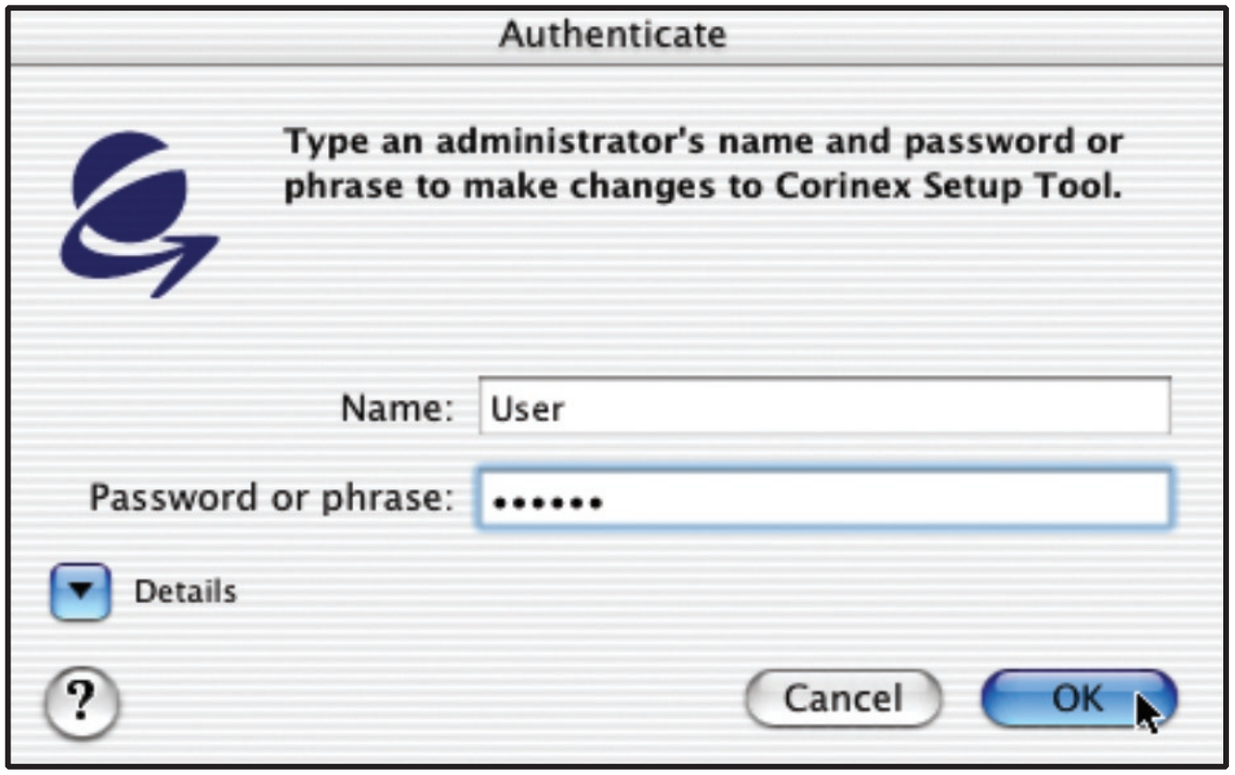
The **Corinex Setup Tool** allows the user to setup a private secure powerline network. Follow the steps on the screen of this guide and a secure network will be setup correctly.

1. Start the **Corinex Setup Tool** by clicking on the program icon.

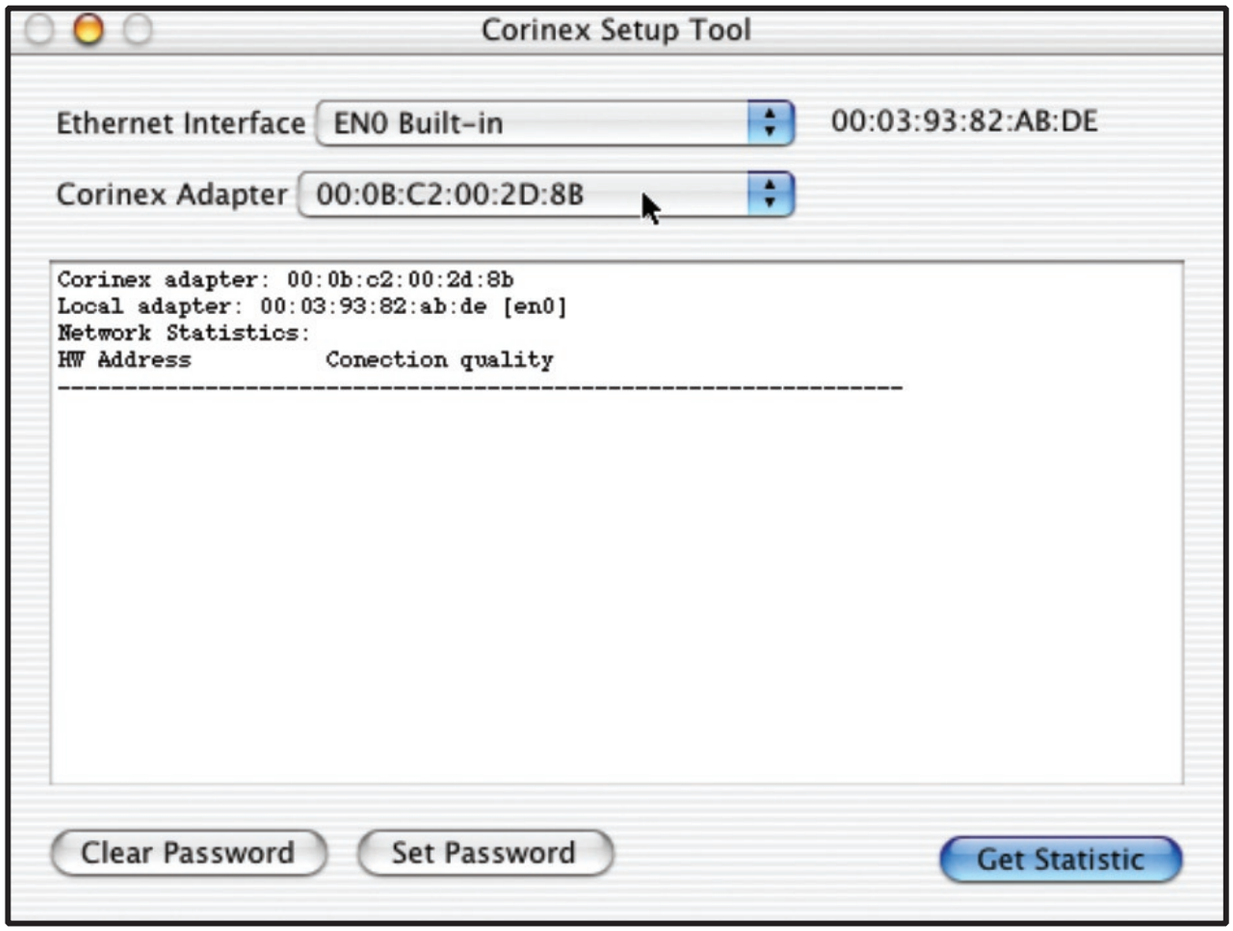
2. This screen prompts for the users Adminstrator indentification. Please, enter your Administrator password in the **Password or pharase** box and click **OK**.



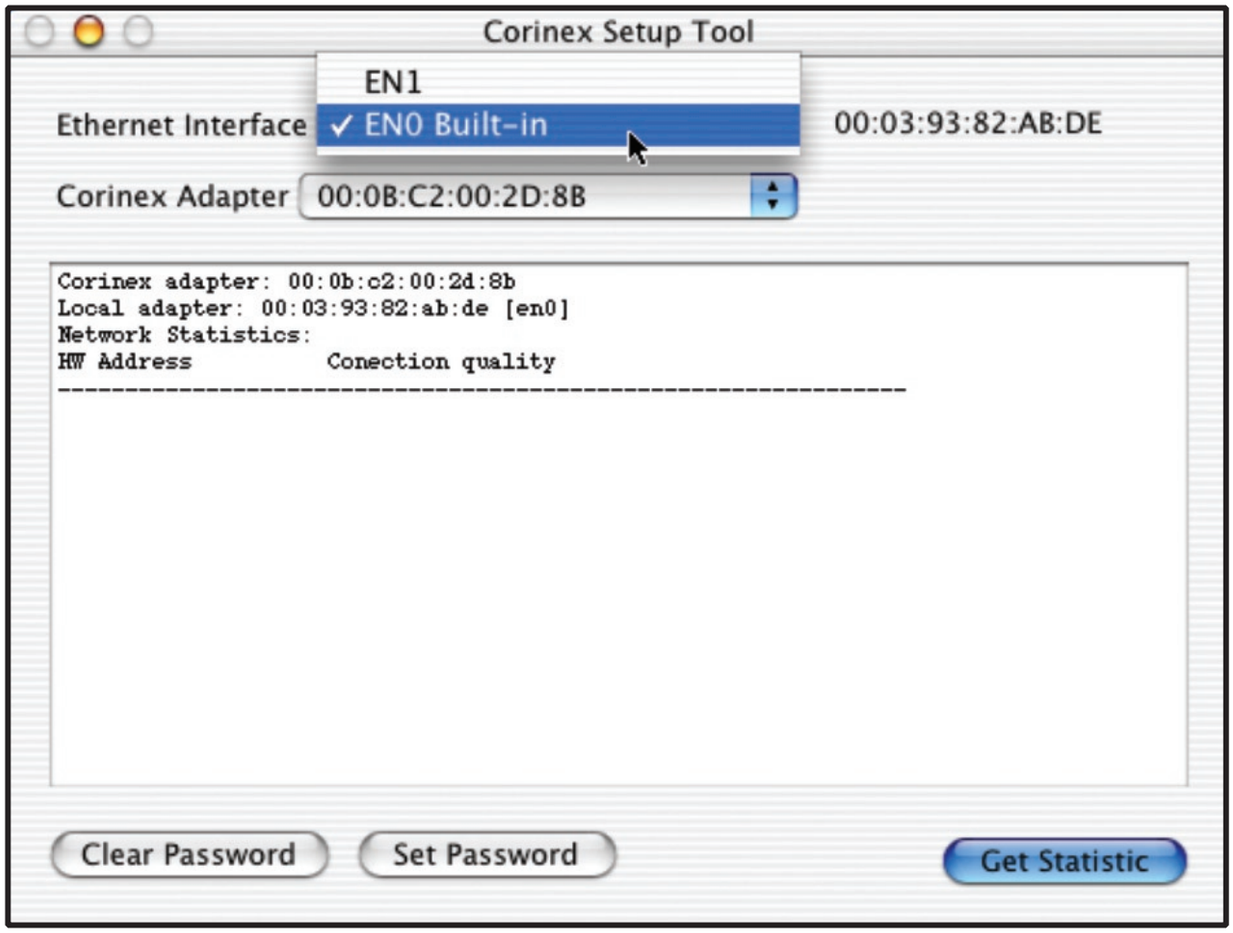
3. As the authorization is valid only for a certain time period, the user is asked for another authorization when the previous expired.

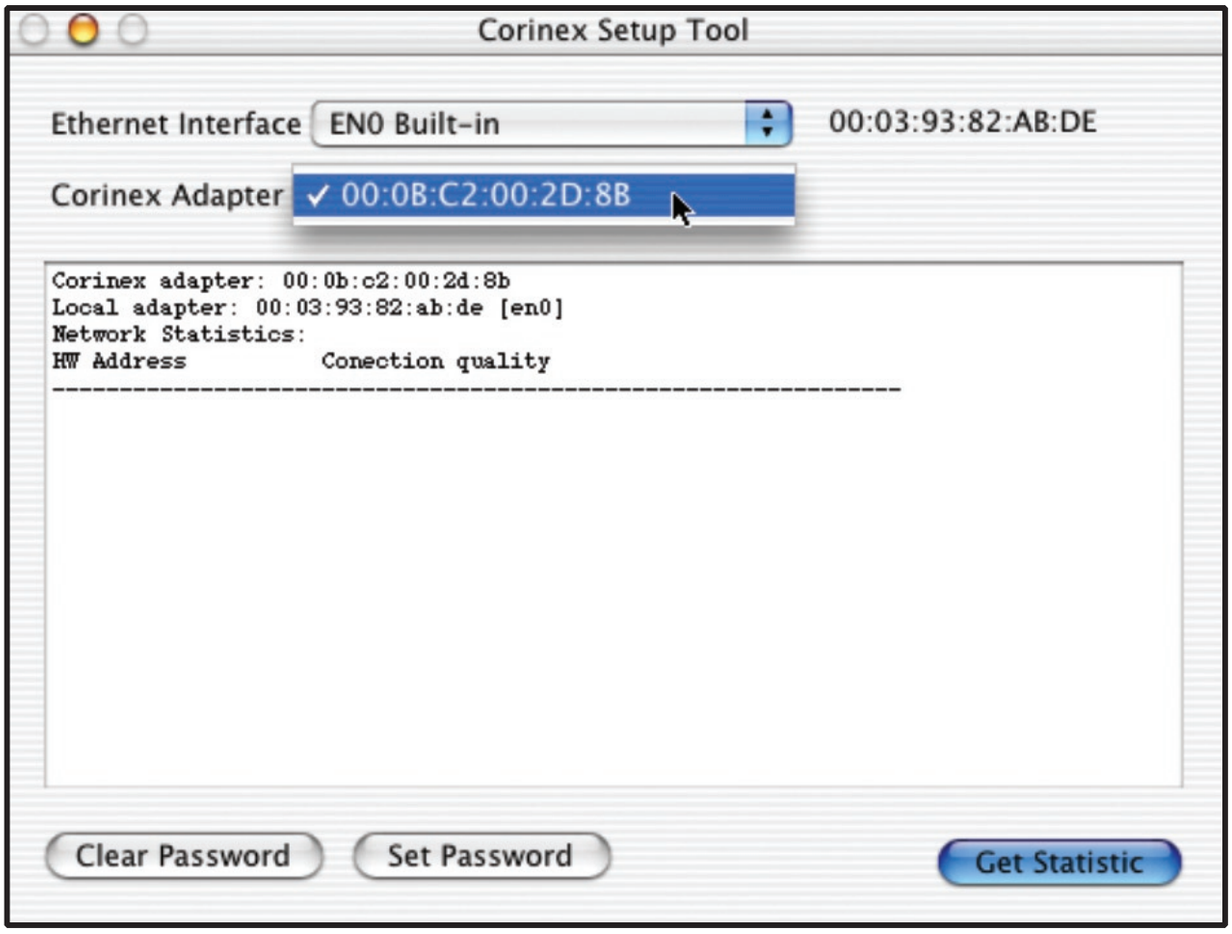


4. The following picture shows the main window of the applicaton where the user can choose from Ethernet interfaces (EN0 as a standard, but the user may have several Ethernet cards, displayed under their Unix names) and the user can choose any CableLAN.

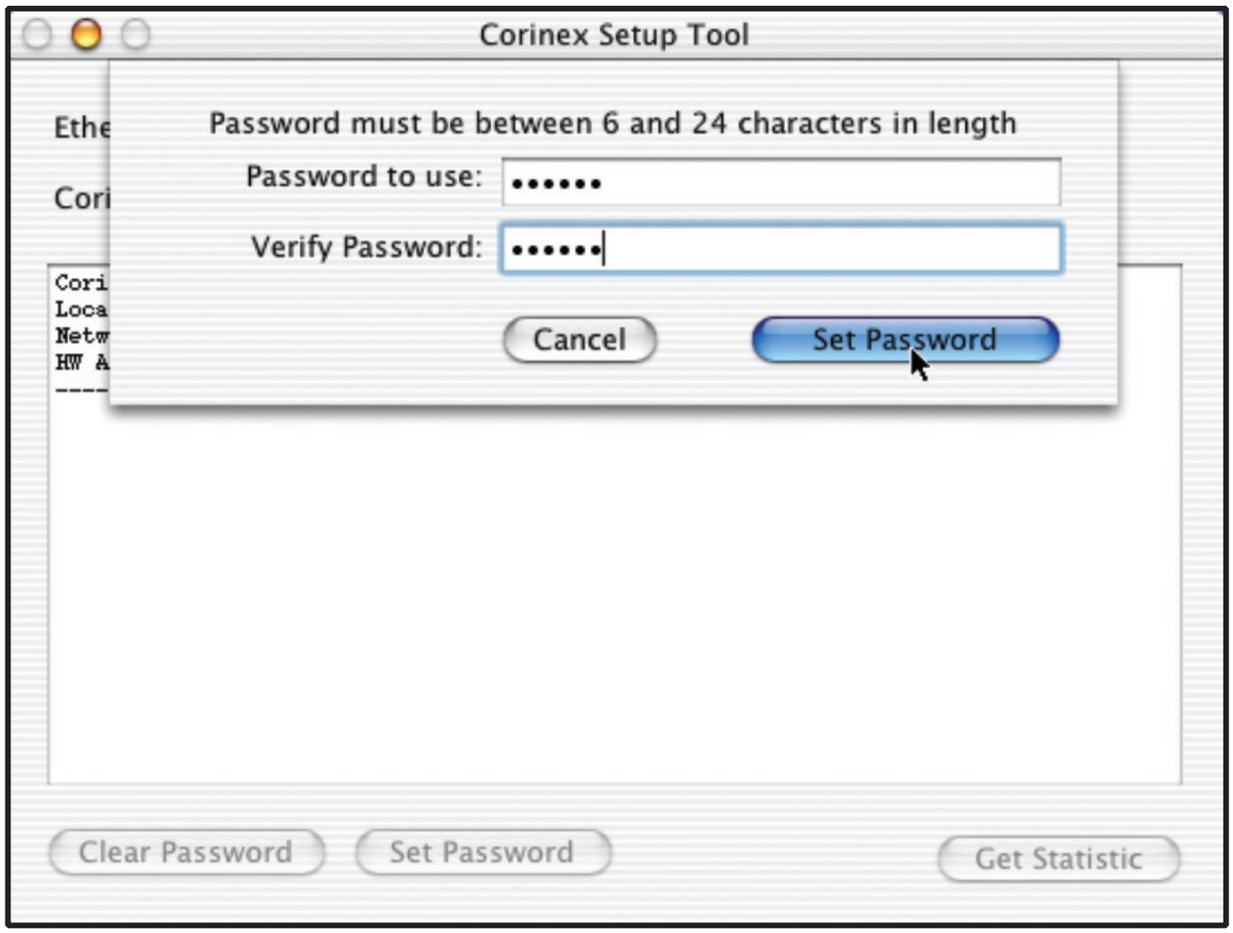


5. The following picture shows how to choose an Ethernet Interface and a desired Corinex CableLAN device.

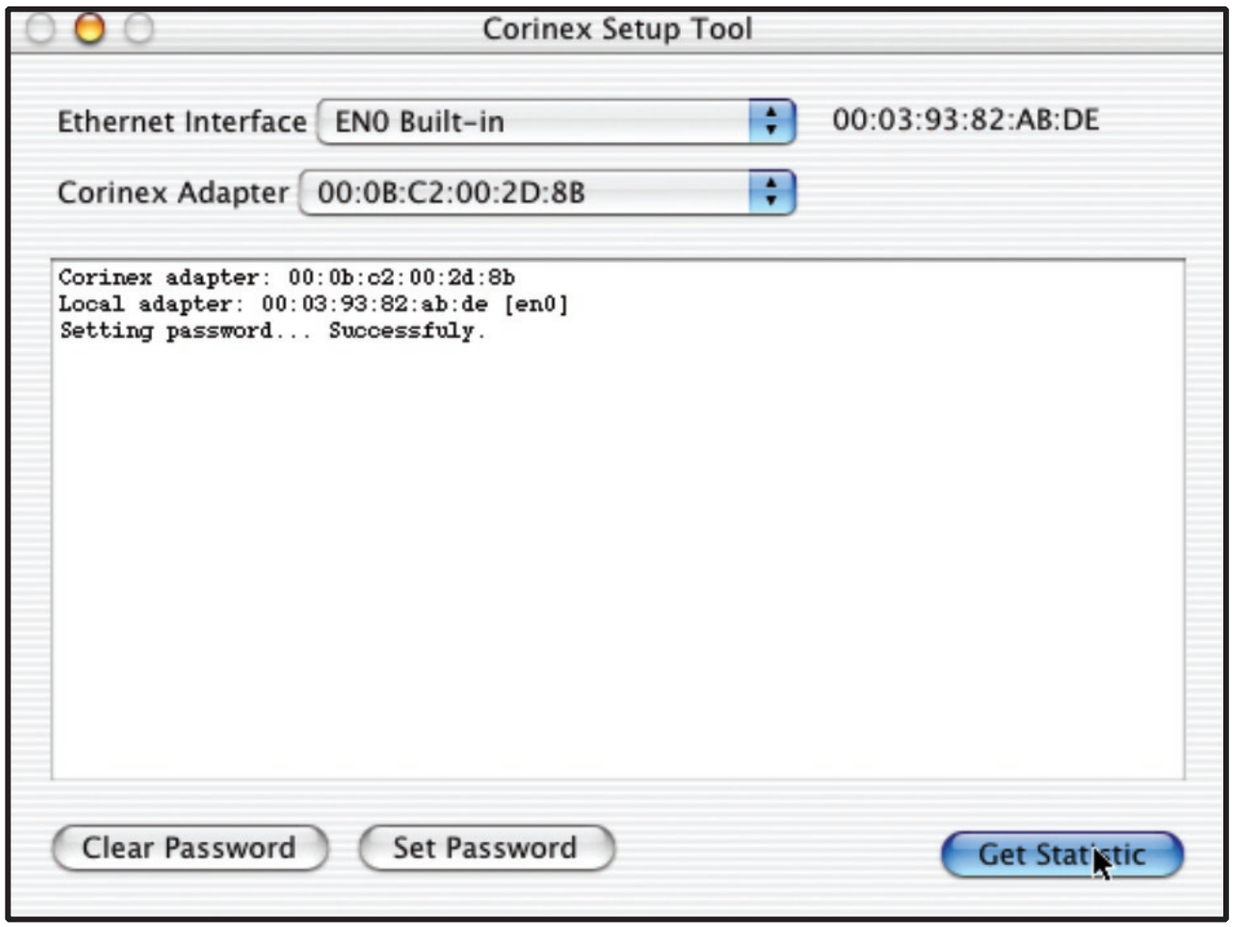



Corinex Setup Tool
Ethernet Interface
EN0 Built-in
00:03:93:82:AB:DE
Corinex Adapter
✓ 00:0B:C2:00:2D:8B
Corinex adapter: 00:0b:c2:00:2d:8b
Local adapter: 00:03:93:82:ab:de [en0]
Network Statistics:
HW Address Conection quality
Clear Password
Set Password
Get Statistic

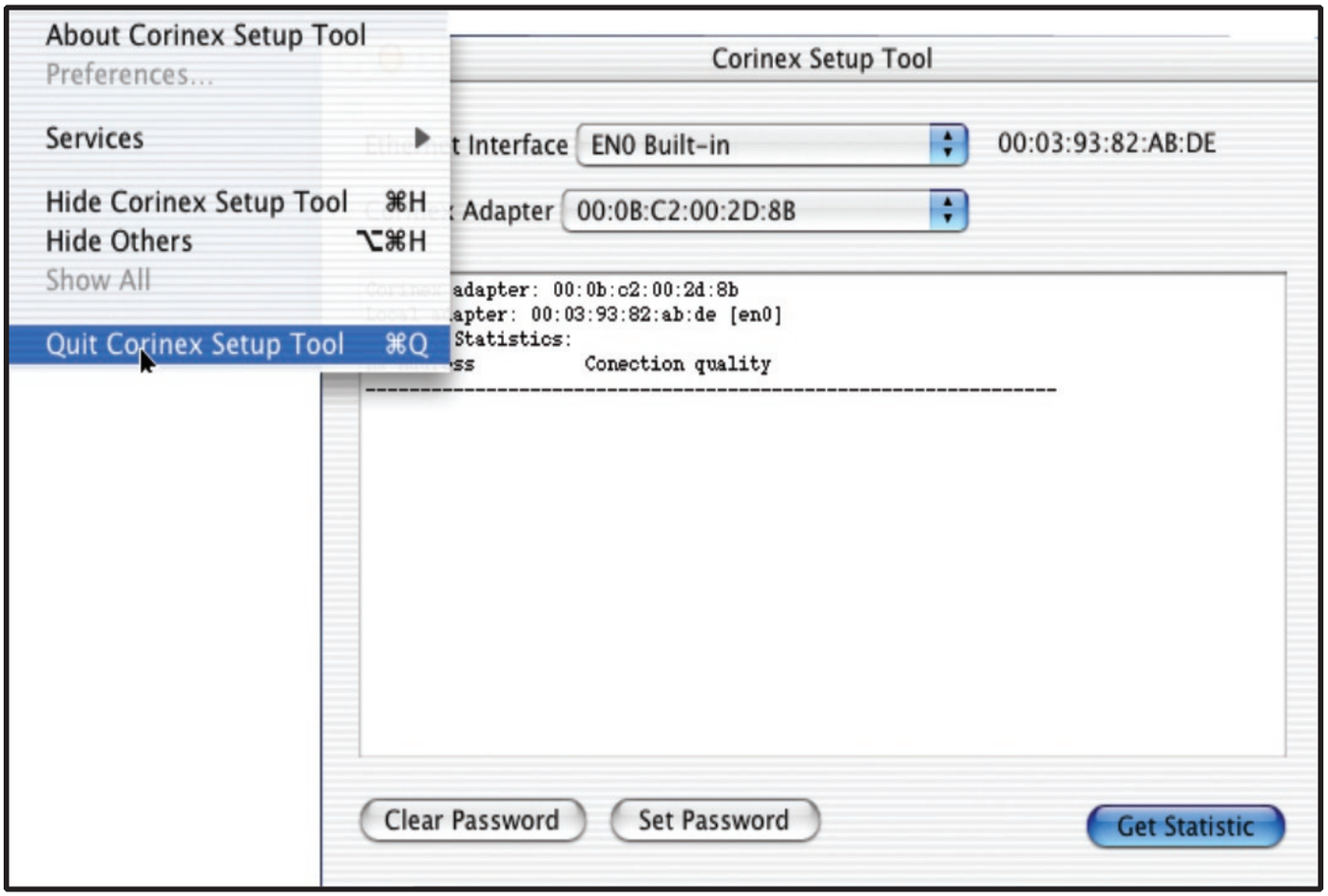
6. All Corinex CableLAN devices have a password and only adapters having the same password can communicate with each other. To change the adapter password, click on the button **Set Password**. The following dialog will appear: **Password to use** for the adapter and **Verify Password**. Enter any password, which can be between 6 and 24 characters long into the **Password to use** section and repeat the same password in **Verify Password**. After filling in the password, click on the **Set Password** button and the password will be stored in the adapter.



7. To refresh the status display in the main window of the Corinex Setup Tool, click on the **Get Statistics** button.



8. For program termination use the **Quit Corinex Setup Tool** command from the main menu as it is shown in the following picture.



3.2 Corinex CableLAN Adapter

The *Corinex CableLAN Adapter* introduces a new and innovative solution for high speed communications, using the coax cable as a medium for communication. This unique technology offers users a wide range of networking options by using digital CableLAN

technology enabling up to 14 Mbps of "traffic" between nodes within the network.

- Enables users to connect individual computer or other devices with Ethernet communications links into a local area network through coax wires.
- Enables computer file and application sharing
- Enables peripheral and printer sharing through the CableLAN network
- Enables shared broadband Internet access
- Enables sharing the bandwidth for multimedia payloads including voice, data, audio and video
- Enables gaming competition within the reach of the coaxial wires network
- Eliminates the requirement for special data cable wiring
- A real cost-effective and reliable solution for high speed communications in any home or small office

You can combine this type of adapters with the Corinex full line of powerline products. This manual has been prepared for *Corinex CableLAN Adapters* for use in combination with computers.

Example

The connection of two computers over the CableLAN by using two *Corinex CableLAN Adapters:*

1. Install *Corinex CableLAN Adapter* on each one of the two computers (see Installation Guide).
2. For connectivity enter the properties for this connection (see to user guide of operating system) and set up an IP address manually. For example: 192.168.4.1 mask: 255.255.255.0 and another computer set up 192.168.4.2 mask: 255.255.255.0
3. You can check the connection by a simple ping procedure addressing the IP address of the second computer.

3.3 FAQ

1. **Is the *Corinex CableLAN Adapter* still working if there is an electricity blackout? And will it resume the transmission automatically after the power comes back ?**
   Corinex CableLAN Adapters are operational, when the connected computers are rebooted and the power is back on.

2. **Once the electricity is on after blackout, is the CableLAN Adapter put into operation "automatically".**
   Yes, as soon as the computers are running again. If there is a problem, unplug the adapter and plug it back into the connection slot.

3. **Is there any cross talk or interference issue when using *Corinex CableLAN Adapters?***
   Within a computer we don't see any interference with any other card and/or system. OFDM is a technology, which reduces any influence coming from another device that is connected to the coax cable network. The Corinex adapters have also been FCC and EC approved. Please see also question Nr. 5.

4. **In case the computers are at different floors of the same building, can they use the CableLAN device for data transmission ? And how does it work?**
   CableLAN devices use the coax cable as a medium for communication. If the coax cable wire between the two outlets used for communications in this case are connected with each other and the maximum distance is about 700 m, it works fine.

5. **Can we use a *Corinex CableLAN Adapter* in a DOCSIS cable modem network?**
   Yes, but you will need a special filter as explained in chapter 2.4.

3.4 CableLAN Adapter Specifications

The following table lists the product specifications for the *Corinex CableLAN Adapter*.

Standard compliance	HomePlug v 1.0.1 compatible
	Windows 98/Me/2000/NT/XP, Mac OS X and Linux compatible for the Setup Tool
	IEEE 802.3
	UL and /or international standards approved
	FCC and / or CE approved
Protocol	Ethernet / HomePlug 1.0.1
Speed	Up to 14 Mbps (CableLAN), 10 Mbps (Ethernet)
Cabling type	Standard AC cable, Ethernet cable, Coax jumper cable
LED status lights	Link and Activity on CableLAN, Link/Activity on Ethernet
Unit dimensions	106 mm L x 148 mm W x 47 mm H
Power cable	6`/1.8 m
Coax jumper cable	with F/M and antenna / F type connectors
Weight	0.69 lbs/0.313 kg

Interface	Standard Ethernet port RJ 45, 10 Mbps F type CableLAN Connector
Impedance	at CableLAN port 75 Ω
Frequency used	4-21 MHz
Modulation	OFDM
Medium Access	Half duplex, collision based
Power emitted into CableLAN	57 dBmV (707 mV)
Maximal attenuation	40 dB
Power input	110/120 or 220/240 V AC, 0.5A
Power Consumption	3 W
Safety & EMI	USA: UL/FCC part 15 / Europe: CB/CE
Operating temperature	32°F to 131°F (0° to 55°C)
Storage temperature	-4°F to 158°F (-20° to 70°C)
Operating humidity	10% to 85% non-condensing
Storage humidity	5% to 90% non-condensing

4 Troubleshooting Guide

Computer networking can sometimes be "tricky" when many components must work together for the ultimate network system to function properly. With the right tools the problems are usually easy to fix. The following tools, available on your computer or the Installation CD, will get you started.

- Setup Tool (from the Corinex CableLAN Installation CD)
- Ping (from the command / terminal prompt, see section 2.6)

If it just doesn't work...

*1. Check that the LEDs on the CableLAN side labelled **LINK** on all devices are on, if not:*

- Check the coaxial and power cables.
- Make sure the power outlet is working by plugging something else into it.
- Make sure the coaxial outlet is working and connected to other outlets used for CableLAN. If this fails as well, try 2. – 5.

2. Check the Ethernet cables:
The *Corinex CableLAN Adapter* has a LED on the Ethernet side labeled **LINK**. If it is not on:

- Check if the device at the other end of the Ethernet cable is switched on.
- Try a different Ethernet cable.

3. Check the connection between the Corinex CableLAN Adapter and the coax cable network.

4. Check that the devices exist on the network:

Start the **Corinex Setup Tool**, in the main program window click **Get Statistics** and see if all devices on your network are found. If all devices are listed, skip this section. If a device is missing:

- Make sure all computers have only one active network slot.
- Make sure the *Corinex CableLAN Adapters* are plugged straight into the cable network through the coax jumper cable.
- Unplug all *Corinex CableLAN Adapters* and plug them back in again, one by one. Run the Setup Tool again.
- The devices may be programmed with different passwords. Setup all devices with a new password as described in the chapter 3.1.

5. Check that the Corinex CableLAN Adapters are detected by TCP/IP:

From the command prompt, run ping and type the computer name or IP address of the computer you are working on [ping your computer name]. This should return 4 good packets. Now try to ping another computer on the network. If a timeout occurs:

- Go into the TCP/IP properties and check that the buttons for automatically obtaining IP addresses and gateway are checked. If not, make sure that both computers are on the same subnet.
- Check the IP configuration on all computers to verify that all computers have valid IP addresses on the same subnet.
- The IP tables may be corrupted, reboot all computers and try again. If these tests work, you have basic connectivity and can use all network services. If this does not work, you may have a faulty device. Please contact your reseller or local distributor.

I cannot share my Internet access…

To share broadband Internet access, you need a router connected to your Cable/DSL modem. This will provide a firewall with a single IP address that all computers will use as a gateway. Connect a *Corinex CableLAN Adapter* to your Cable/DSL router.

I have got all that, it still doesn't work...

- Make sure that your TCP/IP settings are set to automatically obtaining IP address and gateway address.
- Switch off all computers and unplug the CableLAN devices, now plug your CableLAN Adapter back into the router before switching on your computer. This will ensure that the computer's IP address will be obtained from the router.
- Now open the web browser, if the "Not Found" page appears, try to check your LAN settings in the Internet Options of your web browser.

It works but it is slow...

A slow connection is almost always due to poor cable connection.

- Make sure the device is connected straight into the cable outlet and not into a splitter or extension cable.
- Try another cable outlet.

If you still have trouble, you may contact the Corinex "help desk" by sending an e-mail to: support@corinex.com
- describing your problem
- reporting the devices types and manufacturing numbers of your network adapters
- giving us a phone number under which you may be reached, inclusive a convenient time to call